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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,066

02/04/2004

Rainer Gluck

022230-9026-00

4530

23409 7590 08/07/2008
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EXAMINER

LEO, LEONARD R

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

08/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/772,066	Applicant(s) GLUCK, RAINER	
	Examiner Leonard R. Leo	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-42 is/are pending in the application.
- 4a) Of the above claim(s) 5,7,10,14,19,21,24,28,33,35,38 and 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,8,9,11-13,15,17,18,20,22,23,25-27,29-32,34,36,37 and 39-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20, 2008 has been entered.

Claims 1-15 and 17-42 are pending, and claims 5, 7, 10, 14, 19, 21, 24, 28, 33, 35, 38 and 42 remain withdrawn from further consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 8-9, 12, 15-18, 20, 23, 29-32, 34, 36-37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armes in view of Ostbo.

Armes discloses a plate heat exchanger comprising a first end plate 16 having a connector 12 with hole 46, a second end plate 18, a plurality of intermediate plates 20, and fluid line 46'; but does not disclose an acute angle formed between two cross-sectional planes of the connector. Note the plates 16, 18, 20 have the same cross-sectional shape as disclosed in Figure 2 (column 1, lines 52-59). The plates are oriented differently, i.e. rotated or flipped.

Ostbo discloses a plate heat exchanger comprising a first end plate 4 having a fluid connector with a first plane and a second plane forming an acute angle, a second end plate 5, intermediate plates 8, and fluid line 7 having an acute angle formed between two cross-sectional planes of the connector for the purpose of minimizing pressure drop of the outlet fluid.

Since Armes and Ostbo are both from the same field of endeavor and/or analogous art, the purpose disclosed by Ostbo would have been recognized in the pertinent art of Armes.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Armes an acute angle formed between two cross-sectional planes of the connector for the purpose of minimizing pressure drop of the outlet fluid as recognized by Ostbo.

It has been held that the term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding. *In re Hotte*, 177 USPQ 326, 328 (CCPA 1973). In this instance, the connector 12 and plates 16, 18, 20 of Armes are soldered or brazed together to form a unitary and homogenous structure.

Regarding claims 2-3, 17 and 31, the fluid line 46' of Armes extends over and is roughly parallel to the first end plate 16.

Regarding claims 4, 6, 18, 20, 32 and 34, Armes discloses auxiliary support 14 with an upstanding flange soldered to the first end plate 16 to support the fluid line 46'. Furthermore, the recitation of "soldered" is considered to be a method limitation in an apparatus claim, which bears no patentable weight in this instance. See MPEP 2113.

Regarding claims 8 and 36, as permissibly gleaned from the drawings, Ostbo discloses the acute angle is about 70 degrees.

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Regarding claims 9, 23 and 37, Armes discloses fluid line 46' is soldered to the connector 14. Again, the recitation of "soldered" is considered to be a method limitation in an apparatus claim, which bears no patentable weight in this instance. See MPEP 2113.

Regarding claims 12 and 40, Armes discloses manifold formed by aligned openings 24, 26, 28, 30 in the plates 20.

Claims 11, 13, 25, 27, 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armes in view of Ostbo as applied to claims 1-4, 6, 8-9, 12, 15-18, 20, 23, 29-32, 34, 36-37 and 40 above, and further in view of Wright.

The device of the combined teachings of Armes and Ostbo lacks a vent.

Wright discloses a plate heat exchanger comprising first and second end plates 9 having a connectors, intermediate plates 8, fluid line 10, and vent 11 for the purpose of ease of maintenance.

Since Armes and Wright are both from the same field of endeavor and/or analogous art, the purpose disclosed by Wright would have been recognized in the pertinent art of Armes.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Armes a vent for the purpose of ease of maintenance as recognized by Wright.

Regarding claims 13, 27 and 41, Wright discloses the connector is concentric with the manifolds defined by holes 2-5.

Response to Arguments

The rejection in view of Tajima et al is withdrawn in view of the claim amendments.

Applicant's arguments have been fully considered but they are not persuasive.

As noted in the grounds of rejection above, the plates 16, 18, 20 of Armes have the same cross-sectional shape as disclosed in Figure 2 (column 1, lines 52-59). The plates are oriented differently, i.e. rotated or flipped.

No further comments are deemed necessary at this time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ LEONARD R. LEO /
PRIMARY EXAMINER
ART UNIT 3744

August 11, 2008